

CLAIMS

What is claimed is:

1. A method for protecting digital images copied from a video RAM, comprising the steps of:

transmitting stored pixel data from a computer memory to a video RAM;

identifying protected pixel data within the stored pixel data;

modifying the stored pixel data, thereby generating modified pixel data within which individual pixel datum is recognizable as being protected or unprotected; and

in response to pixel data being copied from the video RAM, replacing individual pixel datum copied from the video RAM, that is protected, with substitute pixel datum.

2. The method of claim 1 wherein said modifying step sets least significant bits of pixel data, and whereby pixel data is recognized as being protected or unprotected based on values of the least significant bits that are set.

3. The method of claim 2 wherein pixel data includes red, green and blue color components, and wherein said modifying step sets the least significant bits of the blue color components within pixel data.

4. The method of claim 1 further comprising the step of displaying pixel data in the video RAM.

5. The method of claim 4 wherein said modifying step generates modified pixel data that appears substantially similar to the stored pixel data.

6. The method of claim 1 wherein the pixel data is copied from the video RAM by a screen capture command.

1 7. The method of claim 1 wherein the pixel data is
2 copied from the video RAM by a command to copy screen data to a
3 clipboard.

1 8. The method of claim 1 wherein the protected pixel
2 data is pixel data for at least one protected digital image.

1 9. The method of claim 8 further comprising the step of
2 downloading the at least one protected image over the Internet.

1 10. The method of claim 1 wherein the substitute pixel
2 datum is encrypted pixel datum.

1 11. The method of claim 10 further comprising the step
2 of decoding encrypted pixel data.

1 12. The method of claim 1 wherein the stored pixel data
2 is encrypted stored pixel data.

1 13. The method of claim 12 further comprising the step
2 of decoding encrypted stored pixel data.

1 14. A system for protecting digital images copied from a
2 video RAM, comprising:

3 a first data bus in which stored pixel data is
4 transmitted from a computer memory to a video RAM;

5 a second data bus, in which pixel data is copied from
6 the video RAM to a computer memory;

7 a digital filter identifying protected pixel data within
8 the stored pixel data, and modifying the stored pixel data, thereby
9 generating modified pixel data within which individual pixel datum is
10 recognizable as being protected or unprotected; and

11 a pixel processor replacing individual pixel datum
12 copied from the video RAM, that is protected, with substitute pixel
13 datum.

1 15. The system of claim 14 wherein said digital filter sets
2 least significant bits of pixel data, and whereby pixel data is
3 recognized as being protected or unprotected based on values of the
4 least significant bits that are set.

1 16. The system of claim 15 wherein pixel data includes
2 red, green and blue color components, and wherein said digital filter
3 sets the least significant bits of the blue color components within pixel
4 data.

1 17. The system of claim 14 further comprising a video
2 display device for displaying pixel data in the video RAM.

1 18. The system of claim 17 wherein said digital filter
2 generates modified pixel data that appears substantially similar to the
3 stored pixel data.

1 19. The system of claim 14 wherein said first data bus
2 and said second data bus are distinct data busses.

1 20. The system of claim 14 wherein said first data bus
2 and said second data bus are the same data bus.

1 21. The system of claim 14 wherein the protected pixel
2 data is pixel data for at least one protected digital image.

1 22. The system of claim 21 further comprising a receiver
2 downloading the at least one protected image over the Internet.

1 23. The system of claim 14 wherein the substitute pixel
2 datum is encrypted pixel datum.

1 24. The system of claim 23 further comprising a digital
2 decoder decoding encrypted pixel data.

1 25. The system of claim 14 wherein the stored pixel data
2 is encrypted stored pixel data.

1 26. The system of claim 25 further comprising a digital
2 decoder decoding encrypted stored pixel data.

1 27. A method for protecting digital images copied from a
2 video RAM, comprising the steps of:
3 transmitting stored pixel data from a computer
4 memory to a video RAM;
5 identifying protected pixel data within the stored
6 pixel data; and
7 modifying the stored pixel data, thereby generating
8 modified pixel data within which individual pixel datum is
9 recognizable as being protected or unprotected.

1 28. The method of claim 27 wherein said modifying step
2 sets least significant bits of pixel data, and whereby pixel data is
3 recognized as being protected or unprotected based on values of the
4 least significant bits that are set.

29. The method of claim 28 wherein pixel data includes red, green and blue color components, and wherein said modifying step sets the least significant bits of the blue color components within pixel data.

1 30. The method of claim 27 further comprising the step
2 of displaying pixel data in the video RAM.

31. The method of claim 30 wherein said modifying step
generates modified pixel data that appears substantially similar to the
stored pixel data.

1 32. The method of claim 27 wherein the protected pixel
2 data is pixel data for at least one protected digital image.

1 33. The method of claim 32 further comprising the step
2 of downloading the at least one protected image over the Internet.

1 34. The method of claim 27 wherein the stored pixel data
2 is encrypted stored pixel data.

1 35. The method of claim 34 further comprising the step
2 of decoding encrypted stored pixel data.

1 36. A system for protecting digital images copied from a
2 video RAM, comprising
3 a data bus in which stored pixel data is transmitted
4 from a computer memory to a video RAM; and
5 a digital filter identifying protected pixel data within
6 the stored pixel data, and modifying the stored pixel data, thereby
7 generating modified pixel data within which individual pixel datum is
8 recognizable as being protected or unprotected.

1 37. The system of claim 36 wherein said digital filter sets
2 least significant bits of pixel data, and whereby pixel data is
3 recognized as being protected or unprotected based on values of the
4 least significant bit that are set.

1 38. The system of claim 37 wherein pixel data includes
2 red, green and blue color components, and wherein said digital filter
3 sets the least significant bits of the blue color components within pixel
4 data.

1 39. The system of claim 36 further comprising a video
2 display device for displaying pixel data in the video RAM.

1 40. The system of claim 39 wherein said digital filter
2 generates modified pixel data that appears substantially similar to the
3 stored pixel data.

1 41. The system of claim 36 wherein the protected pixel
2 data is pixel data for at least one protected digital image.

1 42. The system of claim 41 further comprising a receiver
2 downloading the at least one protected image over the Internet.

1 43. The system of claim 36 wherein the stored pixel data
2 is encrypted stored pixel data.

1 44. The system of claim 43 further comprising a digital
2 decoder decoding encrypted stored pixel data.

1 45. A method for protecting pixel data captured from a
2 video RAM, the pixel data being such that individual pixel datum is
3 recognizable as being protected or unprotected, comprising the step of
4 replacing individual pixel datum copied from the video RAM, that is
5 protected, with substitute pixel datum, in response to pixel data being
6 copied from the video RAM.

1 46. The method of claim 45 wherein the pixel data is
2 copied from the video RAM by a screen capture command.

1 47. The method of claim 45 wherein the pixel data is
2 copied from the video RAM by copying screen data to a clipboard.

1 48. The method of claim 45 wherein the substitute pixel
2 datum is encrypted pixel datum.

1 49. The method of claim 48 further comprising the step
2 of decoding encrypted pixel data.

1 50. A system for protecting pixel data captured from a
2 video RAM, the pixel data being such that individual pixel datum is
3 recognizable as being protected or unprotected, comprising:
4 a data bus, in which pixel data is copied from the
5 video RAM to a computer memory; and

6 a pixel processor replacing individual pixel datum
7 copied from the video RAM, that is protected, with substitute pixel
8 datum.

1 51. The system of claim 50 wherein the substitute pixel
2 datum is encrypted pixel datum.

1 52. The system of claim 51 further comprising a digital
2 decoder decoding encrypted pixel data.

1 53. A method for protecting digital images copied from a
2 video RAM, comprising the steps of:
3 modifying protected pixel data so as to mark it as
4 being protected;
5 transmitting stored pixel data including the modified
6 protected pixel data from a computer memory to a video RAM; and
7 in response to pixel data being copied from the video
8 RAM, replacing individual pixel datum copied from the video RAM,
9 that is marked, with substitute pixel datum.

1 54. The method of claim 53 wherein said modifying step
2 sets least significant bits of pixel data, and whereby pixel data is
3 recognized as being marked based on values of the least significant
4 bits that are set.

1 55. The method of claim 54 wherein pixel data includes
2 red, green and blue color components, and wherein said modifying
3 step sets the least significant bits of the blue color components of
4 protected pixel data.

1 56. The method of claim 53 further comprising the step
2 of displaying pixel data in the video RAM.

1 57. The method of claim 56 wherein said modifying step
2 generates modified protected pixel data that appears substantially
3 similar to the protected pixel data.

65
66
67
68
69
70
71
72
73
74
75

10 a second pixel processor replacing individual pixel
11 datum copied from the video RAM, that is marked, with substitute
12 pixel datum.

1 67. The system of claim 66 wherein said first pixel
2 processor sets least significant bits of protected pixel data, and
3 whereby pixel data is recognized as being marked based on values of
4 the least significant bits that are set.

1 68. The system of claim 67 wherein pixel data includes
2 red, green and blue color components, and wherein said first pixel
3 processor sets the least significant bits of the blue color components
4 within pixel data.

1 69. The system of claim 66 further comprising a video
2 display device for displaying pixel data in the video RAM.

1 70. The system of claim 69 wherein said first pixel
2 processor generates modified protected pixel data that appears
3 substantially similar to the protected pixel data.

1 71. The system of claim 66 wherein said first data bus
2 and said second data bus are distinct data busses.

1 72. The system of claim 66 wherein said first data bus
2 and said second data bus are the same data bus.

1 73. The system of claim 66 wherein said first pixel
2 processor and said second pixel processor are distinct processors.

1 74. The system of claim 66 wherein said first pixel
2 processor and said second pixel processor are the same processors.

1 75. The system of claim 66 wherein the protected pixel
2 data is pixel data for at least one protected digital image.

1 76. The system of claim 75 further comprising a receiver
2 downloading the at least one protected image over the Internet.

1 77. The system of claim 66 wherein the substitute pixel
2 datum is encrypted pixel datum.

1 78. The system of claim 77 further comprising a digital
2 decoder decoding encrypted pixel data.

1 79. The system of claim 66 wherein the stored pixel data
2 is encrypted stored pixel data.

1 80. The system of claim 79 further comprising a digital
2 decoder decoding encrypted stored pixel data.